Gapping, event-kinds and Indirect Binding

Isabelle HAÏK
University of Caen Normandy, CRISCO, EA 4255
Draft – May 29 2020. Comments welcome.

Consensus on Gapping is that it is clause- or island-bound, which is explained by extraction of the remnants, but there are regular exceptions to the extraction analyses, in particular with manner adjuncts and generic statements. I will propose that the distributive interpretation of Gapping is responsible for the proper distance between the paired phrases as well as their Indirect-Binding relation because the domain of Gapping is the syntactic expression of a function provided by the event-kind named by the V. There is no movement with Gapping, which Maps a Small Clause onto a clause, forming a union of two clauses (Goodall 1987).[1]

1. The question to solve
1.1 Locality in Gapping

The data will be in French as well as English. I will provide pairs of data in both languages when they are parallel and sometimes French data with an English translation.

Gapping relates two or more pairs of main phrases, the correlates to the left and the remnants to the right, as in (1). Throughout the article, I will indicate the correlates in bold.

(1) **John** read a **book** and Peter a magazine.

Some locality condition must hold between the two elements of the pairs. For Ross (1970) and Lasnik (2013) they must be clause-mates, for Neijt (1979) finite-clause-mates:

(2) I want to try to begin to write a novel and Mary ~~wants to try to begin to write~~ a play.
(Ross 1970, cited in Johnson 2014, (4a):2)

(3) *The first letter says that you should pay tax and the second letter ~~says that you should pay~~ V.A.T.
(Neijt 1979, (86):142-3, cited in Johnson 2014, (60a):19)

In his work unifying Gapping and Fragments (e.g. *A: "I saw someone." B: "Yeah, Bill"*), Boone (2014) reviews the various extraction accounts: Sag (1976), Merchant (2004), Johnson (2014), Jayaseelan (1990), Boone (2014), Fox and Pesetsky (2005), Coppock (2001) and others postulate that the remnants undergo movement. Johnson (2014) and Pesetsky (1982), like Neijt (1979), claim that the lower remnant must be *wh*-extractable. For example, it cannot occur inside a *wh*-island even if the clause is not finite, to be compared with (2):

(4) *John wondered what to cook today and Peter ~~wondered what to cook~~ tomorrow.
(Johnson 2014, (58):18, citing Neijt 1979, (73):138)

Jayaseelan (l990) assigns the first remnant leftward movement, and the second one rightward movement, which is clause-bound, whence the clause-boundedness of Gapping:

[1] Many grateful thanks to Richie Kayne, Betsy Ritter and Pritty Patel-Grosz for their insight and Eric Gilbert for helpful comments and suggestions.

(5) *John thinks that Bill will see Susan and Harry$_i$ [~~t$_i$ thinks that Bill will see t$_j$~~]][Mary]$_j$
(Boone 2014, (16):106)

For some like Boone (2014), the lower one lands in Thoms's (2013) subsubject position by leftward Exceptional movement, below *wh*-movement, which Thoms argues is the same as that required for multiple *wh*-questions:

(6) a. Max ate the apple and Sally [the hamburger]$_i$ [~~ate t$_i$~~]

b. A: Who bought what?
B: John [a book]$_i$ ~~bought t$_i$~~ and (Mary a pencil)
(Boone 2014, (7):103)

Now, comparing the properties of the adverb *respectively* with Gapping, Moltmann (1992) has observed that repeating the subject with a sloppy item in an embedded clause allows the extension of the relevant distance in both constructions:

(7) a. John and Bill believe that they have met Mary and Sue respectively.

b. John believes that he has met Sue and Bill Mary.
(Moltmann 1992, (107a-b):86)

Moltmann's same-subject condition is valid with finite and non finite embedded clauses:

(8) a. *Max says that you should buy bread and Peter wine.

b. ??Max believes Mary to be sick and Bill Sue.
(Moltmann 1992, (102a-b):86)

Let me add that Gapping seems not to be possible when the controller is not a subject:

(9) ***Fred*** criticizes/resents Mary for wasting **her money** and Tom her capacities.

That condition is observed in French too when the embedded sloppy pronoun is not a subject:

(10) ***Tom*** espère que M. Z va lui prescrire **du valium** et Joe un somnifère.
Tom hopes that Mr.Z is going him prescribe GEN-DET-valium and Joe a sedative
'Tom hopes that Dr. Z will prescribe him valium and Joe sleeping-pills.'

So, the same-subject condition seems the more accurate, but it cannot explain the *wh*-island facts, and the extraction account does but it cannot explain the same-subject facts.

Lastly, most work on Gapping discusses object clauses, not adjuncts. For Neijt (1979), Gapping is excluded in adjuncts:

(11) *Tom went to Florida to learn to play tennis and Bill ~~went to Florida to learn to play~~ squash.
(Johnson 2014, (57c), from Neijt 1979, (53):131-2)

(12) *__Jean__ a acheté un lopin de terre pour y mettre __une caravane__ et Pierre un cabanon.
John has bought a piece of land to there put a trailer and Peter a shed
(13) *__Jean__ bought a piece of land to put up __a trailer__ there and Peter a shed.

(14) *__Jean__ a démissionné après avoir gagné __le jackpot__ et Pierre le loto.
John has resigned after have won the jackpot and Peter the national lottery
(15) *__John__ resigned after he won __the jackpot__ and Peter the national lottery

This makes us reconsider favorably movement analyses of Gapping, given that extraction is impossible from adjuncts.

To conclude, the literature has observed the following, pending an investigation of adjuncts:

(16) **Descriptive generalization 1**
Gapping is possible inside a non-*wh* object-clause with a sloppy subject.

Returning to adjuncts, Merchant (2012) Culicover and Jackendoff (2005), Bîlbîie (2017) and others contradict their inaccessibility to Gapping:

(17) Robin knows a lot of reasons why dogs are good pets, and Leslie, cats.
(Culicover and Jackendoff 2005:273)

(18) He spoke in the kind of tone a lawyer might use to address a jury, or a serious professor of history his students. (Tom McCarthy, *Remainder*, Vintage: New York, 2005, p.236.)
(Merchant 2012, (49a))

(19) Quand tu parles chinois, tout le monde t'admire, mais anglais personne.
When you speak Chinese everybody you admires, but English nobody
'When you speak Chinese, everybody admires you, but English nobody.'
(Bîlbîie 2017, (223a):183)

Let us turn to similar exceptions.

1.2 Gapping in manner adjuncts

Gapping in extended clauses is subject to individual variation, so I will talk of tendencies in interpretations.

For some speakers, Gapping is not bad in manner adjuncts:

(20) __Jean__ s'est endormi en écoutant __du jazz__ et Pierre de la pop.
John REFL is asleep in listening GEN-DET-jazz and Peter GEN-DET pop music
(21) ?__John__ fell asleep listening to __jazz__ and Peter to pop music.

(22) __Jean__ s'est fait mal en sortant __du train__ et Pierre du métro.
John REFL did harm in getting out GEN-DET train and Peter GEN-DET subway
(23) ?__John__ hurt himself stepping __out of the train__ and Peter out of the subway.

And there is a sharp contrast with extraction, especially in French:

(24) a. **Qu'est-ce que Jean s'est endormi en écoutant ?
(24) b. ??What did John fall asleep listening to?

Let us check whether Gapping in manner adjuncts must obey the same-subject condition:

(25) *__Joe__ a travaillé avec une station l'assommant de __pubs__ et Tom d'infos.
Joe has worked with a radio station him stunning of ads and Tom of news.
'Joe worked with a radio station stunning him with ads and Tom news.'

(26) *__Joe__ worked with a radio station regularly sending out __ads__ and Tom news.

It does. We will formulate it as a condition on event-kind formation, section 2.7.

We will later see that Gapping in adjuncts is sensitive to the habitual or episodic reading, so let us immediately check this parameter with manner adjuncts:

(27) __Jean__ s'est endormi/s'endort en écoutant __du jazz__ et Tom de la pop.
(28) __Jean__ went/goes to sleep listening to __jazz__ and Tom to pop music.

(29) __John__ a appris/apprend __l'anglais__ en écoutant la radio et Peter les séries télé.
(30) __John__ learned/learns __English__ listening to the radio and Peter to TV series.

There is no sharp difference.

We have thus reached the second descriptive generalization:

(31) **Descriptive generalization 2**
Gapping is possible inside manner adjuncts, whether the sentence has an episodic or a habitual reading if it respects the same-subject condition.

As for the last exception to the locality condition on Gapping, in section 1.1 we saw that adjuncts other than manner adjuncts do not allow Gapping. This is generally true for episodic readings, but not always for habitual readings.

1.3 Gapping in habitual sentences with adjuncts other than manner adjuncts

First, both episodic and habitual readings are bad when the subjects are different:

(32) *__Jean__ se fait du souci quand sa femme prend __le train__ et Pierre le bus.
John REFL makes worry when his wife takes the train and Peter the bus
'John worries when his wife takes the train and Peter the bus.'

(33) *__Jean__ s'est fait du souci quand __sa femme__ a pris le train et Pierre le bus.
(34) *__John__ worried when __his wife__ took the train and Peter the bus.

(35) *__Jean__ s'endort après que __sa femme__ a écouté de la pop et Pierre du jazz.
(36) *__John__ falls asleep after __his wife__ has listened to pop music and Peter to jazz.

(37) *__Jean__ s'est endormi après que __sa femme__ a écouté de la pop et Pierre du jazz
(38) *__John__ fell asleep after __his wife__ listened to pop music and Peter to jazz.

Section 2.8 will state that the same-subject condition is a condition on complex event-kinds.

Now, let us consider the effect of the variation of the episodic versus habitual parameter. Some speakers reject all sentences. Others clearly prefer the habitual reading:

(39) __Jean__ a mal au cœur quand il prend __le bus__ et Pierre le train.
John hurts at-the heart when he takes the bus and Peter the train
(40) __John__ feels sick when he takes __the bus__ and Peter the train.

(41) *__Jean__ a eu mal au cœur quand il a pris __le bus__ et Pierre le train.
(42) *__John__ felt sick when he took the bus and Peter the train.

(43) __Les poires__ pourrissent quand elles restent dans un __panier__ et les oranges dans un sac.
(44) ?__Pears__ rot when they are left in __a basket__ and oranges in a bag.

(45) *__Les pommes__ ont pourri quand/car elles sont restées dans __ce panier__ et les oranges dans ce sac.
(46) *__The apples__ have rotten when/because they were left in __this basket__ and the oranges in this bag.

In conclusion, for some speakers, habitual readings sound better than episodic ones.

(47) **Descriptive generalization 3**
Gapping is favored in adjuncts other than manners if the sentence has a habitual reading and if it respects the same-subject condition.

We are going to see that the domain of Gapping is the syntactic domain of a semantic unit. That unit is an event-kind and Gapping operates within the syntactic expression of that event-kind. We have seen three cases where Gapping extends across a clause: non-*wh* clausal objects, manner adjuncts, and habitual sentences. All these elements circumscribe the pairing function that is activated with Gapping, and illustrate when distributivity can go down the tree, as expressed in Carlson (1987), as we now turn to discuss.

2. The analysis
2.1 Gapping and distributivity

Let us consider that Gapping is a syntactic form the interpretation of which is logically equivalent to scope assignment of an expression of plurality over another phrase, which makes the latter referentially dependent on the former. In Gapping pairs, the lower element is construed, via the function provided by the verb, as referentially dependent on the higher one.

(48) __Fred__ received __a robot__ and Bill a microscope.

A robot depends on *Fred* as f(Fred) and *a microscope* on *Bill*, as f(Bill), with f = 'received.'

The clause containing these elements names a function between two sets, forming pairs (Bumford 2015 and references there). The identity of the function is given by the verb whose IP contains the elements of the pair, a question we dig into in later sections.

All expressions of plurality, like definite DPs, indefinites, quantifiers like *everyone*, or coordinate DPs, and all phrases, can in principle be interpreted distributively and have the wide-scope effect of the universal quantifier (Haïk 1984). In his analysis of *same*, Barker (2007), as in Jacobson (1999), proposes that all expressions of plurality, whether name-like or quantifier-like, can take scope. So, the point made in the present article agrees with them and with Bumford (2015), who relates pair-list readings to wide-scope universal quantification.

Now consider the following:

(49) They each bought a pack of cigarettes.

There are two ways to account for the plurality of packs of cigarettes in (49). Either distributivity of the subject creates a plurality of events, which yields the plurality of packs, or the plurality of packs is due to the distributive reading of the expression of plurality pairing its elements onto the set of packs via the function named by the clause. Carlson's (1987) analysis of *same* is based on the plurality of the eventualities named by the IPs which the DPs occur in. There, Carlson rejects identifying distributivity with relative-scope assignment, but this is what I am doing here, and I will talk of respective scope of two phrases because that makes the reference to pairs more immediate.[2]

In (48), with Gapping, the verb *receive* with past time form the name of a function yielding a value for the value of its subject, *Fred* in the first conjunct and *Bill* in the other, such that:

(50) received (Fred) = a robot and received (Bill) = a microscope

This is equivalent to the logical form of a wide-scope representation with ordered sets:

(51) All the kids received a gift.
∀x, x in {Fred, Bill}, ∃y, y in {a robot, a microscope}, such that x received y.

That is why the bulk of the article intends to show the following:

---

[2] One of Carlson's (1987) arguments for distinguishing the two is that distributivity applies to phrases other than NPs, like VPs, and induce the internal reading of *same*, ("internal" means that *same* is not evaluated with something in the context but by some element of the clause):

(i) John maligned, and Mary praised, the same recording artists.
(Carlson 1987, (19a):538)

Carlson claims that the reading of *same* operates on and only on plural eventualities (the denotations of IPs or VPS). Proponents of the respective-scope treatment thus have to make all categories take scope over others, among them events. So, (i) names a set of events, {e1 = maligning by John at t_1, e2 = praising by Mary at t_2}, such that it is presupposed that for all events in that set, there is a y in the set of artists {A, B,…N} such that f(e) = (y) and f is 'apply.' *Same* asserts that f(e1) = f(e2), i.e. that the value of the artist in event 1 equals that of event 2.

(52) 1. Gapping works on the function that relates the elements of the pairs.
2. The lower phrase behaves like a dependent one on the higher phrase.

2.2 Clause-boundedness and distributive SCs

So, two properties are shared between Gapping and sentences with distributive wide-scope readings, clause-boundedness and referential dependency. Consider first clause-boundedness, verified in at least the three following linguistic phenomena, among a number of others:

First, the internal reading of *same* (Carlson 1987, Heim 1985, Barker 2007, Moltmann 1992, Hardt 2018 and others):

(53) a. Joe and Elvis talked to the same man.

b. *Joe and Elvis thought the detective should talk to the same man.

Second, the interpretation of *respectively* (cf. Moltmann 1992, citing Dougherty 1970):

(54) a. John and Bill love Sue and Mary respectively.

b. *John and Mary believe that Bill married Sue and Ann respectively.
(Moltmann 1992, (97a):85 and (103b):86)

Third, distributive SCs with *the former/latter*, *Joe-Tom*, etc. which will account for Gapping:[3]

(55) a. They drew a face, one/John with charcoal, the other/Tom with ink-markers.

b. Joe and Tom drew a face, the former with charcoal and the latter with ink-markers.

The occurrence of distributive SCs is clause-bound:

(56) ??They think Joe drew a face, one with charcoal and the other with ink-markers.

An expression like *he X she Y, the former X the latter Y*, etc. is a coordinate Small Clause, which, in English, can only be integrated higher than the argument structure, as in (55).[4] In those SCs, *he-she* etc. have no grammatical functions, yielding a reading without them:

[3] Such SCs and those with *each* are briefly mentioned in Fabricius-Hansen and Haug (2012):

(i) For almost a decade, [the pair]$_I$ have kept their romance alive – he$_i$ with private phone calls telling her he loved her and she$_i$ with intimate presents […] (BNC: CBC 9676)

(ii) After dinner, we sat together, each with a glass of wine.
(Fabricius-Hansen and Haug 2012, chapter 1, (8):7 and (12b):8)

[4] Subcategorized adjuncts are deviant, but, still, clause-boundedness is felt sharply:

(57) John and Mary drew a face, respectively, with charcoal and ink-markers.

He-she, like *respectively*, distribute in the right order the values of the subject variables onto those of the object. We will come back in section 3 to single distributive SCs in the analysis of Gapping, like *Tom to New York*, where, in that case, *Tom* has a grammatical function.

Returning to Gapping, if the ability to interpret linguistic material as a function is limited in general to the minimal clause containing the distributed phrase, that should account for the locality condition on Gapping. Similarly to Carlson (1987) and current semantic work, the locality condition results from the construction of that function. The paired elements of Gapping are arguments of one of the various functions a verb can provide in a clause. A function is named by the syntactic expression of the event-kind named by the verb:

(58) **Definition**
a. The various functions that a clause expresses are named by the structure that is directly built from the expression of the event-kind named by the lexical head of the clause.
b. Such functions must respect syntactic hierarchy.

"Directly built" means that such a function cannot take as argument an argument or adjunct of another head than that expressing the event-kind. Looking ahead at the coming analysis, where Vs name event-kinds, let us see how this definition works. Consider a simple clause:

(59) John saw Mary yesterday.

The verb *see*, which names the event-kind SEE, forms a clause naming a number of functions, for example, one between an agent and a time, yielding the formula *x saw Mary at time y*, or another between an agent and a patient, yielding *x saw y yesterday*. That the functions respect syntactic hierarchy prevents the definition of a function yielding *x saw y*, with x the patient and y the agent, namely a function such that see (x) = y, with x the patient and y the agent.

Now consider a complex sentence:

(60) John claimed that Peter saw Mary yesterday.

The matrix verb *claimed* names the event-kind CLAIM, and the possible functions it forms is one between an agent and an object, yielding *x claimed y*, or one between an agent and an implicit place of claiming, yielding *x claimed CP at location y*. However, the verb *claim* does

---

(i) ??They went, Mary to New York, John to London.

(ii) *They think the kid should go, Mary to New York, John to London.

In French, the distributive expressions can occur before arguments as well, a clear difference between French and English:

(iii)	Ils ont	attrapé, l'un	un papillon,	l'autre	une libellule.
(iv)	*They have	caught, (the)one	a butterfly,	the other	a dragonfly.

not name a function with any of the internal content of the CP, for example, between the agent and the person seen, yielding the impossible formula *x claimed that Peter saw y yesterday*. That captures the locality condition.

Then, we saw that the domain of Gapping can extend in the three cases listed above as generalizations 1-3. That is because the domain is that of a complex event-kind.

2.3 Kinds

Carlson (1977) has introduced nominal kinds, named for instance by bare plurals like *lions*, which names the kind LION. A kind is the singular notion of a plurality, and things can be said about the notion by looking at the properties **generally** shared by the objects forming the plurality. As a notion, it does not name referents, to the effect that sentences that talk about kinds mentioned in subject position must be generic statements:

(61) Lions are dangerous.

In Carlson's ontology, kinds and individuals like John or a particular lion are notional entities, called *individuals*. Those can only be predicated of Individual-Level predicates:[5]

(62) Lions are dangerous/*available/*sick.

Individual-Level predicates correspond to properties in Milsark (1974) and Stage-Level predicates to states.[6] Kinds are realized by, namely have as instances named by syntactic material, either individuals, notional entities, or stages of individuals, actual entities. In episodic sentences, which talk about actual things singularly located in time and space, individuals are realized by stages of objects of the world, below by stages of actual lions and by some stage of John:[7]

---

[5] For Chierchia (1995), individual-level predicates lexically contain the Generic operator.

[6] I take Fernald's (1999) position that Individual-Level properties and Stage-Level ones are given once and for all, and do not change according to contexts. Individual-Level properties like *tall, intelligent*, etc., differing from *sick, drunk, open* etc., do not change type when they occur in a context that seems to contradict their type. Consider:

(i) Nancy is rarely clever.

(Fernald 1999, (31a):54)

(ii) Francis is sometimes a Californian resident.

(Fernald 1999, (41a):56)

For Fernald, when a context contradicts the nature of an Individual-Level predicate as in (i), the predicate remains Individual-Level but the sentence acquires an additional interpretation, based on evidence, here that Nancy rarely displays the Individual-Level property 'clever.' Or, as in (ii), the property remains Individual-Level but gets interrupted.

[7] It is also possible for bare plurals to be interpreted existentially and refer to actual objects, and still be subjects of generic sentences. Carlson (1989) presents them as a challenge to his initial theory, which assigned the responsibility of genericity to the subject-predicate relation:

(63) a. They saw lions.

b. John ran to the store.

So, a kind is a collection of individuals and an individual is a collection of stages. In a sentence, kinds are either named, or realized, that is to say, instantiated, by an individual. And an individual can either be named or realized by a stage. For Landman (2006:37) and others, all count nouns name kinds and do not have to name species like *spaniel*. See Chierchia (1998) for an analysis of bare nouns across languages and Sailer (2010) for an analysis of cognate objects as naming kinds and their realizations. As for verbs, Carlson (2003) claims that they name kinds and he provides a semantic account of event-kinds and of the composition of arguments with the V to form a (sub)kind. Here, we will consider that lexical words, in particular Ns and Vs name kinds.

A complex DP like *alligators in the New York sewer system* (Carlson 1977) names a kind. In this article, rather than saying that *such* names a kind, I will say that a DP like *such + N* names a kind of N. So, if an N can be augmented with the expression *of that kind*, or if the modifier can be anaphorized by *such*, the DP names a kind of N:

(64) Alligators *in the sewer system* … *such* alligators survive by eating rodents and organic debris.

(Carlson 1977)

But if the property added to the N does not underlie the reason for discriminating the objects from others, like *in the next room*, out of a specific situational context, then the modifier cannot be anaphorized by *such*, showing that the DP does not denote a kind of N:

(65) People *in the next room*…?? *such* people are obnoxious

(Carlson 1977)

2.4 Manner adjuncts and event-kinds

Landman and Morzycki (2003), who adopt Carslon's (1977) analysis of *such* as anaphorizing a kind, say that German *so* and Polish *tak* anaphorize kinds in the verbal domain as well as the nominal one. They claim that these elements name kinds when manner adjuncts, an analysis investigated for example in Gehrke (2019). The crucial point for the present article is that, descriptively speaking, the denotation of a complex expression of a verb with a manner adjunct, like *dance beautifully*, realizes an event-kind.

For Landman and Morzycki (2003), the event-kind is DANCE BEAUTIFULLY. I will say that it is DANCE WAY, where WAY is expressed by a manner adjunct, because I think kinds should correspond to Jackendoff's (1990) or Dowty's (1979) primitive concepts when

---

(i) Hurricanes arise in this part of the Pacific.

(Milsark 1974, cited in Carlson 1989)

possible, but the idea is clear: V names a kind and V modified by a manner adjunct names a kind too.[8]

Importantly, the formation of an event-kind is quite regular with manner adverbs, and not so with other adjuncts, even though that is possible, as we will see. For instance, Landman and Morzycki (2003) claim that locatives do not form event-kinds, unless they characterize a way to perform the event:

(66) a. *Mary ate in Minnesota and John ate like that too.

b. Mary sleeps in a sleeping-bag and John sleeps like that too.
(Landman and Morzycki's 2003 English translations of their (25) and (27))

In Carlson (2003), the formation of an event-kind is similar to Massam's (2001) pseudo-incorporation in the sense that the V and the post-verbal phrase have semantic though not morphological properties of incorporation, which is a head-head relation. So, we will consider that if there is semantic cohesion of some sort between a V and a phrase, it is possible that the two express an event-kind.

For Carlson (2003) or Landman and Morzycki (2003), a V and its object are homomorphic with an event-kind. For instance, for them EAT FOOD is an event-kind. I will differ as follows:

(67) **Working hypotheses**
1. In the unmarked case, an event-kind is named by a V with no OBJECT even if the syntactic V naming the event-kind takes an object. Then, the syntactic V with its arguments denotes a realization of that event-kind. In contrast:

2. WAY expressed by a semantically close manner adjunct forms a complex event-kind with a VERB.

Thus, DANCE WAY is an event-kind and *dance beautifully* names a realization of it. EAT is an event-kind, and the VP *John eat a spicy dish* names a realization of it. The main reason why I do not wish to include the object in the event-kind is that certain objects have been argued in the literature to form an event-kind with the verb on the basis of their specific semantic and syntactic properties, like cognate objects (Sailer 2010), weak definites (Aguilar-Guevara and Zwarts 2010) and certainly body-parts and reanalyzing objects as in *take picture*

[8] In Schäfer's (2008) and Alexeyenko's (2012) and (2015) studies of adverbs in *-ly*, manners are functions that relate events to manners, such that it is the manner that has the property named by the adjective contained in the adverb. For Alexeyenko (2015), *beautifully* decomposes as *in a beautiful manner*, the functional property of the adverb coming from the covert P (*in*). For Piñón (2007) too, manners are concrete individuals. Manner adverbs are predicates of manners and manners are ontologically dependent on an event-type and an event. Manners are provided by a function determining the sort of manners in question, for example, **form** is a function from event-types and events to form-manners, which yields the form-manner of events like writing events in the semantics of sentences like *He wrote legibly*. Conversely, for McConnell-Ginet (1982), VP-internal adverbs are modifiers of the V head, not of an implicit 'manner.'

and other types of light-verb constructions, like *take a look at*. If those properties derive from their expressing a part of an event-kind, that means that not all objects can do so, lest the claim be vacuous. My analysis heavily relies on (67)-1 with respect to clausal objects, which do not, in the unmarked case, express part of an event-kind.

To conclude, a clause expresses an event-kind according to the following hypotheses:

(68) **Hypotheses**
1.a. A V names an event-kind.
b. A VP expresses the event-kind named by V, namely, denotes a realization of that event-kind.
2. A V and an N may form an event-kind V-N only if N is expressed by a cognate object or a weak definite or a body-part or if V forms an expression with N.

Consequently:

(69) **Theory-internal descriptive generalization**
The internal content of a phrase is accessible to Gapping if and only if that phrase expresses a part of an event-kind.

For instance, given that WAY can be a part of an event-kind, the internal content of adjuncts expressing WAY is accessible to Gapping.

As for circumstantial adjuncts, *a priori*, in episodic sentences, they do not express a complex event-kind, for instance DANCE AT TIME is not a kind. However, the construction of an event-kind is based on the semantic relation between the events, so a number of time- or purpose- or condition- or cause-adjuncts accept Gapping when they are more interconnected with the main event than accidental circumstances, as we will see in the course of the article.

One phrase which has not been discussed extensively in Carlson (2003) is the subject. If the formation of event-kinds is similar to pseudo-incorporation, itself similar to the formation of idiomatic expressions, which cannot freeze a subject while leaving out a free object (Aoun and Sportiche 1982 and others), we expect subjects not to express part of an event-kind in the unmarked case. If it is possible to gap inside a subject, that will be because the event-kind comprises the subject and if not, not. Consider:

(70) *[To write **a novel**] would appeal **to John** and a script to Mary.

The unacceptability of (70) shows that the content of the subject cannot be Gapped. This means that the subject is not part of the event-kind named by the V.

We are now going to answer the question why the domain of Gapping can be extended in the three contexts put to light in the first part of the paper:

(71) **Property of Gapping**
Gapping pairs arguments of a function named by the syntactic expression of an event-kind.

2.5 Non-*wh* clausal objects and event-kinds

Recall (7), showing that a sloppy pronoun favors Gapping in the object clause:

(7) **John** believes that he/*Peter has met **Sue** and Bill Mary.

In the present approach, that means that the matrix clause and the object clause with sloppy identity express an event-kind. Unlike in German or Polish, there is no term anaphorizing event-kinds in English to detect them. Contrary to Landman (2006), we cannot use *do so* because *do so* anaphorizes all IPs, including those with temporal or locative adjuncts:

(72) John had lunch in New York, and Peter did so too.

Sloppy readings inside objects of propositional verbs name special kinds of thought processes. Entertaining an idea about oneself is a distinct thought process from others because oneself is perceived as an inside entity and not in the third person mode as an observable independent entity and because of the nature of personal experience as opposed to observed behavior.[9] Presumably, the sloppy reading inside the embedded clause produces a complex event-kind, of the form V ABOUT SELF, where the clause expresses the ABOUT-SELF part. Thus, in (7), *believe he has met Sue* names a realization of the event-kind BELIEVE ABOUT SELF. And I will assume the same for verbs of desire *want*, *prefer*, *try*, etc., for a similar cognitive reason. So, WANT FOR SELF and TRY FOR SELF are event-kinds in (Ross)'s example:

(2) I want to try to begin to write a novel and Mary ~~wants to try to begin to write~~ a play.

The proof comes from morphology. There are a number of verbal, nominal or adjectival compounds with the reflexive element *self* with the aboutness-relation, like *self-conscious* 'aware of one's own actions,' *self-concern* 'concern about oneself,' *self-complacent*, or *self-seeking* 'seeking after one's own benefit.' If we agree that words name kinds, these words show that SELF-V meaning 'V about self' is an event-kind, so a phrase like *V …self…* meaning 'V about self' expresses that kind.

To conclude, a sloppy subject pronoun inside a non-*wh* clausal object allows the whole sentence to express an event-kind, and Gapping is possible because the two elements of the pairs are arguments of that expression.

2.6 *wh*-clausal objects and event-kinds

Recall the common claim that Gapping involves extraction of the lower remnant based on the contrast between simple clausal objects and *wh*-clauses, as in (4), repeated here, aimed at illustrating the *wh*-island constraint. In the present account, PRO represents the SELF element that should allow Gapping as in the preceding section:

(4) *John wondered what PRO to cook today and Peter ~~wondered what to cook~~ tomorrow.

[9] Sloppy readings are also possible when the agent does not know that s(he) has a thought about h-self, but it is very hard to test Gapping in such situations, so I will leave that case out:

(i) Narcissus thought he was gorgeous and Peter too.

That contrast shows the impossibility to form the event-kind WONDER ABOUT SELF. It thus looks as if the content of a *wh*-clause is not visible by the main verb to form an event-kind. I will suggest the following explanation. *Wh*-taking verbs subcategorize for a *wh*-phrase, while the *wh*-phrase is specified by the TP it internally Merges with. I thus consider that the argument of a *wh*-taking VERB is the *wh*-phrase. In that case, the event-kind that a VP like *wonder [wh-phrase TP]* expresses is WONDER, whose object is the *wh*-phrase. That prevents Gapping inside the TP because the TP does not express a part of the event-kind.

Now, it is possible to target *wh* with Gapping, when the two *wh*-phrases are contrasted (and compare with (3)):

(3)' The first letter says how much tax you should pay and the second letter how much V.A.T.

(Neijt 1979, (85):142, cited in Johnson 2014)

The two *how-much* phrases name the arguments of the event-kind SAY, so the matrix VP can name a function relating them to the subjects, *the first letter* and *the second letter*, similarly to a simple clause relating a subject and an object like *John says one thing and Peter another.* As for the following TP, *you should pay* ~~*how much*~~, it belongs to the union of phrase-markers once Mapping (section 3) has taken place and thus properly specifies the two *wh*-phrases.

2.7 Manner adjuncts and event-kinds

As we saw in section 1.2, manner adjuncts allow Gapping. That is because they express a part of an event-kind; cf. (22)-(23), repeated here:

(22) **Jean** s'est fait mal en descendant **du train** et Bob du métro.
(23) **John** hurt himself stepping **out** **of the train** and Bob out of the subway

Those adjuncts answer well a *how* question:

(73) Comment s'est-il fait mal ? – En descendant du train.
'How did John hurt himself? – In stepping out of the train.'

Sometimes a V-*ing* adjunct names an event less closely intertwined with that of the main clause and this impacts Gapping. For instance, there is a slight difference between (22) and the following, which takes on a temporal meaning:[10]

(74) ??**Jean** a croisé Julie en sortant **du train** et Bob du métro.
Jean came across Julie in coming of the train and Bob out of the subway
'Jean came across Julie in coming out of the train and Bob out of the subway.'

[10] Eric Gilbert suggests that the difficulty with (74) comes from the presence of a human DO, and he prefers the following, though for me the sentence remains unacceptable:

(i) La vie est vraiment étrange. Aujourd'hui, quasiment au même moment, Jean a trouvé un billet de 50 euros sur le trottoir en sortant du cinéma et Bob du théâtre.
'Life is really strange. Today, at almost the same time, John found a 50-euro bill on the pavement getting out of the movies and Bob out of the theatre.'

En sortant du train 'coming out of the train' answers better *quand* 'when' than *comment* 'how,' here. So, the more the set of phrases included in the VP or IP feels like a non accidental series of events, the easier it can be construed as the expression of an event-kind.

As for sloppy identity, I will stipulate that, given that WAY is expressed by a clause, and because clauses have verbs, the complex event-kind forms a semantic serial-verb construction, namely a construction which associates two verbs in one global event (Haspelmath 2016). In such constructions, the subjects of the two verbs must be the same. In languages that have syntactic serial-verb constructions, there is only one subject, with two verbs expressed. Here, two subjects are expressed, but they must corefer.

2.8 Adjuncts with the habitual interpretation and event-kinds

Recall generalization 3. For some speakers, Gapping can be fine in adjuncts other than manners, but preferably in habitual sentences, provided they have sloppy subjects. Habitual sentences name habits, dispositions or occupations (Carlson 1977:450) or regular events, all non necessary events, whether on moral, material, logical, or other, grounds:[11]

(75) a. Mary used to read the newspaper.
b. Peter goes to church.
c. Mary drives to work.
d. It rains there.

Such habitual statements are based on the relative regularity of the event named by the clause in the period referred to by the Tense morpheme of the clause.[12] One striking fact about

[11] As for sentences with an expletive subject, it is hard to see how they could be universally true, as in (i), so they must assert recurring events, which, like habits, must be non necessary, so the sentence must imply that things could be different, whence the restriction provided by the additional phrase *there* below:

(i) (??)It rains.

(ii). It rains hard there.

(Carlson 1989, (21a-b))

For Carlson (1989), the ill-formedness of (i) is due to the fact that genericity is expressed by a relation, and hence must involve two individuals, while (i) contains only one, the event.

[12] It has often been argued that all types of generic sentences name states (Dowty 1979, Carlson 1989, Lawler 1973) though for Brinton (1987) generics are parallel to collective nouns and form an aspectual class distinct from states, which are parallel to mass nouns. Carlson (1977) builds generic statements from episodic ones by using a covert generic operator that derives the generic reading from the episodic one (Lawler 1973). Likewise, Rimell (2004) treats the suffix *-va* of imperfective Vs in Czech and Slovak as a habitual (HAB) operator. Conversely, Declerck (1986) or Guéron (2006) take the stance that the meaning of a generic statement derives from the combination of those already present in the sentence and for them, unboundedness explains genericity, an elegant kind of account.

generic sentences is that they name a property which is construed with a dynamic event.[13] Let us consider generic sentences containing adjuncts:

(76) **Bears** climb trees to get **honey**

Some speakers find habitual sentences with Gapping acceptable:

(77) (?)**Bears** climb trees to get **honey** and squirrels nuts.

(78) (?)**Female bears** become aggressive to protect **their cubs** and males their territories.

(79) (?)**John** feels sick when he takes **the bus** and Peter the train.

(80) (?)**Pears** rot when they are left **in a basket** and oranges in a bag.

And acceptability decreases with the episodic counterparts, for instance:

(81) ***John** felt sick when he took **the bus** and Peter the train.

(82) ***Those pears** have rotten when/because they were left **in this basket** and the oranges in this bag.

As mentioned earlier, habits, dispositions and occupations are non necessary properties, that is to say, not shared by every individual or not held at all times, etc. For example, putting one's shoes on before going out is a regular action, so we could think it can be stated in a habitual sentence, but that does not sound right, because it is a social necessity:[14]

(83) #(John dresses well and) Peter puts his shoes on before going out.

Now, let us discuss the semantic relations between the main event and the adjunct event. Here is an example of a habitual sentence where non necessity and manner combine, and where the manner is expressed by the main clause and not the adjunct:

(84)

John se	gare	pour	déposer	sa fille.
John REFL	parks	to	drop off	his daughter

'John parks to drop off his daughter.'

[13] Additional questions are the conditions for judging that genericity holds, that is, what elements of a particular event are relevant for one to be able to decide that its frequency is significant enough to make it a recurring event, and what specific faculties of the mind, like the inferential judgment, have to be used in order to form that judgment (Carlson 1988, Cohen 2012, Ter Meulen 2012).

[14] One could say that putting on one's shoes is a habit since it is regular, but that stating it is uninformative. However, I have excluded obligatory actions from habits because that is how we use the term *habit*. We hardly say that breathing for a person is a habit or disposition, but we can say that breathing audibly is a habit, because it is not obligatory since the audible quality is not universally shared.

In (84), parking is a habit in the sense that it could alternate with another action leading to that of the adjunct, drop a child off, and it characterizes the agents (some parents stop in the middle of the street). Moreover, the main clause names a way to do the adjunct event:

(85) A: How do they drop off their children?
B: Mr. King parks. Bob's parents merely stop in the middle of the street.

Now, parking is a (legal) necessity if one wants to buy something in town, a necessity that one can choose not to comply with, as in (86), but we do not perceive not parking, 'stop in the middle of the street,' as a way to buy things (the adjunct does not answer well a *how* question), and we think of the event as regular rather than a habit:

(86) Elvis ne se gare pas, il s'arrête au milieu de la rue pour acheter ses cigarettes.
Elvis NEG SELF parks not, he stops in the middle of the street to buy his cigarettes
'Elvis does not park, he stops in the middle of the street to buy his cigarettes.'

We see that Gapping is easier with habits than with mere regular actions, certainly because the semantic manner relation is present only in the former case:

(87) (?)**Jean** se gare pour déposer **sa fille** et Pierre son fils.
John parks to drop off **his daughter** and Pierre his son.

(88) *__Elvis__ s'arrête au milieu de la rue pour acheter **ses cigarettes** et Joe son journal.
Elvis stops in the middle of the street to buy **his cigarettes** and Joe his paper

In fact, it often happens that a main clause is interpreted as a way to perform a purpose- or temporal-adjunct event, especially in a habitual sentence. We have seen that parking is a way to drop off a child, and this manner relation is still valid in an episodic sentence:

(89) Comment a-t-il déposé son enfant ? – Il s' est garé (pour déposer son enfant).
How has he dropped off his child? – He REFL is parked (to drop off his child)
'How did he drop off his child? – He parked his car (to drop off his child).'

In some cases, the main clause can be interpreted as a way to do the adjunct event in a habitual sentence and less easily so in an episodic one. Consider (90a-b):

(90) a. Jean ouvre la fenêtre pour fumer.
Jean opens the window to smoke
'Jean opens the window to smoke.

b. Le dentiste met de la musique pour travailler.
The dentist puts on of-the music to work
'The dentist puts music on to work.'

(90a) can mean that Jean opens the window intending to smoke, the circumstantial interpretation, or it says that when he smokes he has the window open, where the agentive and dynamic reading of 'open' loses focus, the only thing mattering being the state of the window. The same happens with 'put on some music,' which means 'with music on' in the habitual reading of (90b). That loss of focus on the main verb is less salient in the episodic reading:

(91) a. Jean a ouvert la fenêtre pour fumer.
John has opened the window to smoke
'John opened the window to smoke.'

b. Le dentiste a mis de la musique pour travailler.[15]
The dentist has put of-the music to work
'The dentist put on some music to work.'

Now consider Gapping:

(92) a. ?**Jean** ouvre la fenêtre pour fumer **ses cigarettes** et Pierre ses cigares.
'John opens the window to smoke his cigarettes and Peter his cigars.'

b. *Jean a ouvert la fenêtre pour fumer **une cigarette** et Pierre un cigare.
'John has opened the window to smoke a cigarette and Peter a cigar.'

If Gapping is fine in (92a), the habitual reading, it is because the main clause can express the manner of the adjunct event. That means that the two events are closely related in the habitual sentences, but in the episodic sentence the two events are less closely linked even if the subjects are the same, and Gapping is worse.[16]

To conclude, if a sentence with an adjunct is episodic, then it tends to name a sequence of two separate events and Gapping cannot extend inside the adjunct. When the sentence is habitual, the two events are more closely related and Gapping is fine. This is so if sloppy identity is respected, so let us turn to that question.

I assume that the reason for the same-subject condition is the same as with manner adjuncts, because the complex event-kinds are formed with two verbs, V IF V, V WHEN V, V TO V, etc., forming a semantic serial-verb construction, which requires the same individual to perform the two actions.

Note that the latter condition prevents the second V from having an expletive subject:

---

[15] That reading is possible but harder to perceive, as a habitual reading realized by a token: 'That day, he smoked with the window open,' 'the dentist worked that day with music on.'

[16] Eric Gilbert notes that adding a context making clear that the windows are different renders the sentence acceptable for him:

(i) Pierre a ouvert la fenêtre pour fumer une cigarette et Tom (dans l'immeuble d'en face) un cigare. Ils se saluent et échangent quelques mots.
'Pierre has opened the window to smoke a cigarette and Tom (in the opposite building) a cigar. They wave at each other and exchange a few words.

Gilbert's example strikingly shows a spatial symmetry between the participants, which is certainly responsible for the ease of Gapping, which I leave as an open question here, though spatial symmetry is relevantly used in other coordinate constructions (Haïk 2013). My point remains that a generic statement is easier since it does not require such a specific situation.

(93) a. *__John__ wears a hat when it is __sunny__ and Tom windy.

b. **__John__ wears boots when there is __rain__ on the streets and Tom snow.

3. The formal analysis of Gapping
3.1 Merge and Map a distributive SC

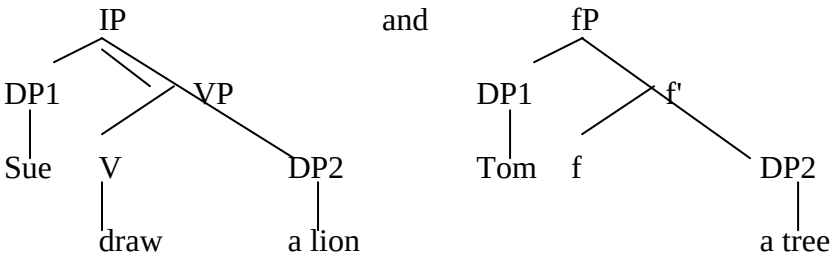
Gapping occurs in coordinate structures, which allow unions of phrase-markers with shared nodes (Goodall 1987).[17] It can also occur in comparative constructions (Lechner 1998) but I have left them out from this study. I analyze Gapping as the result of mapping a distributive SC onto the structure of a first conjunct. Following Goodall (1987), that produces a structure interpreted as a union of two identical phrase-markers apart from the paired elements.

In a distributive SC like [*Tom*[*f a tree*]], the specifier of *f* is some phrase X and the object of *f* the result of applying f to X. So that SC reads as f(Tom) = a tree, according to the rule:

(94) A distributive SC like $[X\ [f\ Y]_{f'}]_{fP}$ reads as f(X) = Y

In a derivation with Gapping, a full clause and a distributive SC Merge. Because of two conspiring conditions on Gapping (event-kind and Indirect-Binding conditions), Merge succeeds at the CP, IP, TP) or *v*P levels, where, most of the time, the subject or an adjunct is the higher element of the pair. Throughout the article, I will simplify the trees above VP:

(95)



The syntactic form of the distributive SC becomes a full clause with its two arguments placed in their proper place by Mapping the SC-structure onto the structure of the first conjunct while identifying the function named by *f* with the function activated between the correlates. The symmetry between the correlates and the remnants is done *via* addresses (Haïk 1986, 1987):

(96) **Properties of addresses**
An address uniquely identifies the position in which a node occurs in a phrase-marker.
Addresses can be conjunct-to-conjunct symmetric in coordinate structures.

If in the above phrase-marker *Sue* has address 1, assigning *Tom* address 1 means that *Tom* is placed in that address in the second conjunct. Similarly, *a tree* must have the same address as *a lion* if it is to be interpreted as the DO of the verb.

[17] Culicover and Jackendoff (1997) have shown that syntactic coordination can express semantic subordination, and that Gapping only occurs in symmetrical, not hierarchical, coordination, which Boone (2014) analyzes as the licensing condition on Gapping.

Let us turn to the question of defining the Mapping of *f* with the first phrase marker. *f* is a head which maps onto V and unfolds as the whole structure that expresses the relevant function of the first conjunct. That structure must be and can only be obtained through the three nodes of the distributive SC: X, Y and *f*. Mapping must respect the rules below:

(97) **Rules on Merge and Map of a distributive SC**

Semantic rule: the function named by the head *f* of a distributive SC must be equated with the function f defined by the syntactic expression of the event-kind of the clause it merges with.

Structural rule: In Mapping $X[fY]_{f'}$ onto the first conjunct, the node *f* coincides with the V that names the V-part of the event-kind of the first conjunct and it expands onto the syntactic structure that is provided by V and by the correlates of X and Y. That structure must express the function relating the correlates.

So, the Mapped nodes are the expression of a function provided by the V. That is the part in double lines in (95), it represents the function, *drew*, relating its two arguments, an agent and a thing drawn in some past time.[18]

By definition, if two sets have a non-empty intersection, that intersection belongs to the two sets, and the union of the two sets comprises only one intersection. For instance, the union of {1,2,3} and {2, 4} is {1,2,3,4} and not {1,2,3,2,4}, because 2 = 2, and the union of two sets does not repeat a same element. That is Goodall's representation with shared nodes, where the shared nodes are expressed once but interpreted twice, and the whole structure is interpreted as a sum of two quasi-identical phrase-markers. The coordinate structure that is formed by merging the clause with the distributive SC reads as the first phrase-marker *Sue1 drew a lion2* coordinated with the second phrase-marker *Tom1 drew a tree2*. And the sum of such quasi-identical sentences is logically equivalent to a distributive interpretation with ordered sets:

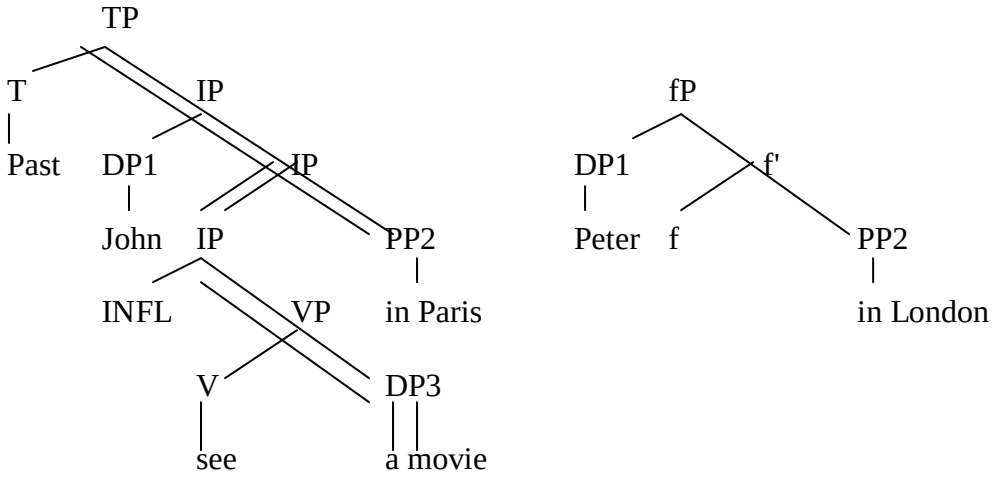
(98) ∀x, x in {Sue, Tom}, ∃y, y in {a lion, a tree}, such that x drew y.

Now consider a case where an adjunct is paired:

(99) **John** saw a movie **in Paris** and Peter in London.

[18] The realization of event-kinds is limited to VP (Carlson 1989), but I assume that the functions can be built from the functional nodes above VP, like Tense, so, for instance, certain pairs are valid at a time and not at another.

(100)



Here, the relevant function is that between the agent and the location of an event. I assume the subject is IP-adjoined above the adjunct. The structure that is contained within the correlates DP1, PP2 and V, with the structure directly dependent on them like Tense and the verbal object DP3, in double lines, expresses the function between the agent and the location, 'saw a movie in,' and it is provided by the V *see*, which expresses the event-kind SEE. So, the SC can Map onto that structure, producing two phrase-markers with the interpretation of the scopal logical expression:

(101) ∀x, x in {John, Peter}∃y, y in {Paris, London}such that x saw a movie in y.

3.2 Gapping and event-kinds

Returning to the question of the clause-mate condition on Gapping, we saw that it was due to the interpretation of the IP as a function pairing two of its phrases. And we explained the extension of the domain of Gapping by defining that domain through an event-kind so that complex event-kinds produce larger domains. Let us now review the three cases of complex event-kinds, with the distributive functions defined on event-kinds.

The first case is that of a main V taking a clausal object with sloppy identity:

(102) **John** said [he will buy **a car**] and Peter f a motorcycle

Here, there should be a function in the first conjunct between people and vehicles, which should provide the syntax and semantics of *f* of the distributive SC. The event-kind is SAY ABOUT SELF, expressed by the syntactic structure built around the two main lexical heads realizing that event-kind, *say* and *buy*: *DP1 said he will buy DP3*. That expression provides the function 'said he will buy.'

The second case is that of a matrix V taking a manner adjunct. Manner adjuncts form event-kinds, whether in episodic or habitual sentences, so the entire first conjunct expresses an event-kind, V WAY:

(103) ?**John** hurt himself [PRO getting **out of the train**] and Bob f out of the subway

The event-kind HURT WAY provides a function formed with two Vs, named by the linguistic material build by those Vs, *DP1 hurt himself getting out of DP3*, so the function named by *f*

of the distributive SC can be defined as that function, 'hurt himself getting out of,' relating people and means of transportation, and the SC can be Mapped onto the first conjunct.

The third case is that of a V augmented with an adjunct in a habitual sentence:

(104) ?**Females** become aggressive [PRO to protect **their cubs**] and males f their territory

A sentence that names a disposition, like the first conjunct, expresses an event-kind uniting two Vs, V TO V. The function in the first conjunct, which relates bears and their possessions and with which *f* of the SC must be identified, is provided by the TP expressing that event-kind, *become aggressive to protect*.

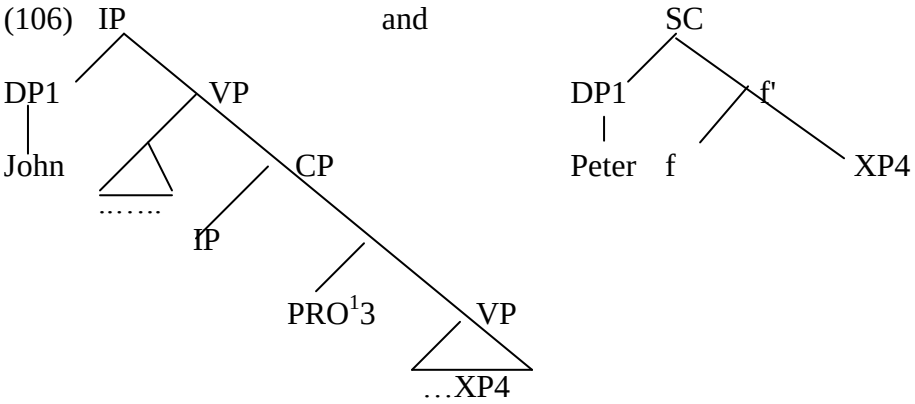
3.3 Sloppy identity

The same-subject condition involves sloppy identity, and I should say a word on how the embedded pronoun gets its sloppy interpretation. Higginbotham (1985) showed that it is intended coreference that governs the assignment of values to pronouns. He proposed a device readable on the syntactic tree like arrows showing how and to what linguistic element the pronoun finds its value. Similarly, let us analyze pronouns as identity functions of addresses and not indices (Haïk 1987):

(105) **Interpretation of pronouns with a linguistic antecedent**
A pronoun assigned a value via a linguistic antecedent must reach the address of that antecedent and is assigned the value of the item occupying that address.

Sloppy identity mainly occurs in coordinate structures, due to the mechanism of anaphora interpretation through addresses. Given that addresses can be symmetric in coordinate structures, the two subjects can have the same address, here *1*, and the pronoun can be indexed with the address of the subject, *1*, indicated as a superscript for readability reasons:

(106)



The first phrase-marker is, say, *John1says he[1]'ll buy a house*, in which *he[1]* is indicated as having the same referential value as the DP occupying address *1*, here *John*. The second phrase marker is *Peter1says he[1]'ll buy a car*, in which *he[1]* is indicated as having the same value as *DP1*, namely, Peter. This captures sloppy identity.[19]

[19] Parasitic gaps, which are *wh*-variables, do not allow sloppy identity because the antecedents do not have the same address, a parasitic gap occurring inside an adjunct, not a conjunct:

3.4 The same-degree-of-embedding Constraint

That coordinate structures use addresses is the right way to go is provided by Hankamer's (1979) observation that the correlates and the remnants must have the same degree of embedding. That is exactly what addresses can capture, because phrases can have the same address only if they have the same degree of embedding:

(107) *Alfonse stole the emeralds, and I think that Mugsy ~~stole~~ the pearls.
(Hankamer 1979, (23) :19 cited in Johnson 2014, (20):6)

The reverse degrees of embedding yield a bad result too, with the second conjunct a matrix:

(108) *[She's said [Peter has eaten his peas]] and [Sally ~~has eaten~~ her green beans] so now we can have dessert.
(Boone 2014, (6):55)

Suppose we follow the order of natural numbers *1*, *2*, *3*, etc, going down the tree, it is obvious that embedded *Mugsy* cannot have the address *1* of *Alfonse*. Conversely, if the correlate *his peas* is embedded, it will have a lower address than the non embedded *her green beans*.

4 Subject-object asymmetries with Gapping

Since Kayne (1981), subject-object asymmetries have been seen as properties of extraction. Thus proponents of the extraction analysis of the lower element in Gapping sentences explain the difficulty to leave an embedded subject. For instance, Pesetsky (1982) argues that the Gapping sentences leaving a subject inside a *wh*-island get the same strong rejection judgment as extraction of subjects out of islands, compared with the mild rejection of objects:

(109) a. ?? Which food does this man know why you ate?

b. *Which food does this man know why makes you sick?

(110) a. ??This man knows why you ate spaghetti, and that man, macaroni.

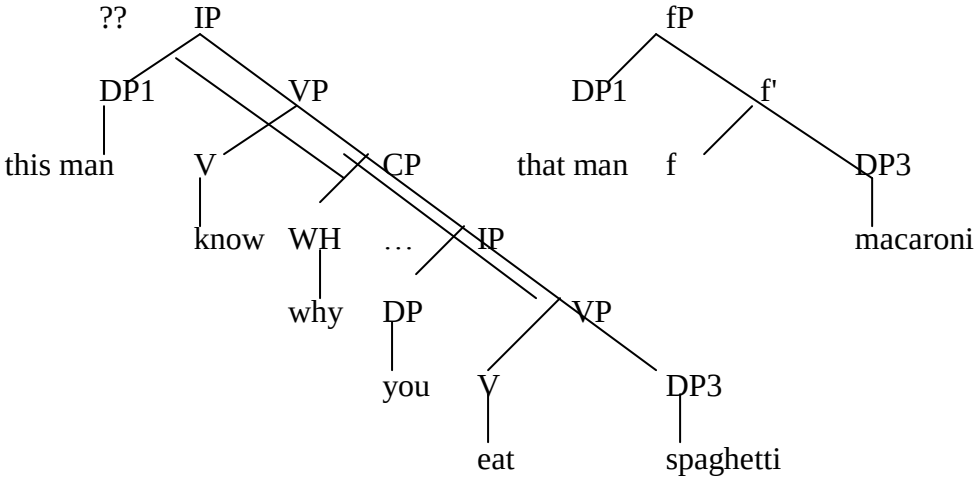
b. *This man knows why spaghetti makes you sick, and that man, macaroni.
(Pesetsky 1982, (120b):644 & (121):645)

Suppose the island violation consists in being (improperly) able to have access to the content of the *wh*-clause. We are going to see that the function has a way to be expressed in the first conjunct with object- but not subject-remnants. Consider object remnants:

(i) Which book about herself did Mary store before Susan read? (sloppy impossible)

But parasitic gaps have coordinate-structure properties, so they actually occur in coordinate structures, but at LF, too late to assign same addresses (Haïk 1986 and 1990).

(111)



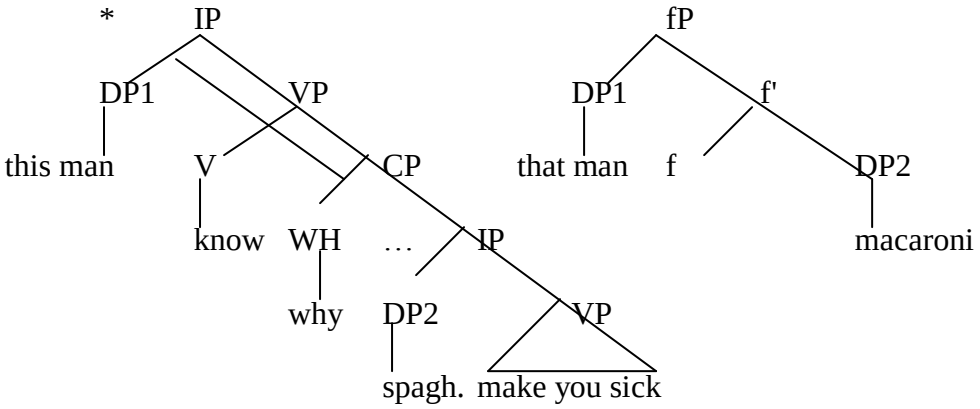
DP3 is a remnant, so its correlate participates in the activated structure in the search for the function. The node *f* plugs onto the main V, *know*, which provides the function expressed in the spaced-out double lines built on the surrounding phrases of that verb. It does not reach DP3, which is the argument of a lower head, hence ill-formedness, because DP3 fails to be an argument of the function with *know*. In order for the sentence to be grammatical, DP3 should be forced as the argument of the function relating it to the subject, and the structure between *know* and *eat* should name that function, in close double lines above: *know why you eat*. I assume that this is made possible owing to the following hypothesis:

(112) The material in-between the correlates is in principle accessible to Mapping.

This is natural in the sense that the line between the remnants can expand onto the structure between the correlates without any additional action. In other words, the line in the SC can be seen as a simplification of the finer details of the first conjunct. If that is done in (111), the desired function 'know why you eat' can be read on the structure. This results in an illicit extension of the function with a CP which is not the object of *know* (*wh* is) and which does not express a part of the event-kind formed by KNOW, and that yields the *wh*-island violation, but this is mild ungrammaticality.

Let us turn to the strong rejection of the subject remnant.

(113)



As earlier, DP2 is part of the activated structure, and *f* plugs onto *know*. DP2 should be the argument of a function having believers and food as arguments. One is the argument of 'know,' the other the argument of 'make you sick.' That means that the embedded VP *make*

you sick, which has DP2 as its argument, should be part of the syntactic expression of that function. However, it is neither provided as a correlate nor as material depending on any head expressing the event-kind of the matrix clause nor is it in between the correlates. It is not accessible at all and thus the function f has no way to be read on the structure and Mapping cannot be done. Hence the strong rejection of such sentences.

We have just seen that the exclusion of subjects as lower elements of Gapping is due to the fact that their predicate is not accessible to form a function with a higher predicate because the predicate is a sister of the subject and not above the subject.

It is interesting to test subjects closer to the matrix verb, like subjects of SCs, which are extractable. In fact, we are going to see that the IO of the double-object construction, a position which is not *wh*-extractable, cannot be a lower remnant, but also the internal subject of a causative construction in French, an extractable position. First, let us agree on the facts, since the literature shows double-object constructions with Gapping:

(114) John gave Bill a lot of money and Mary Susan.

(Boone 2014, (19b):106)

A similar sentence that does not sound too bad is this one:

(115) (?)**Mary** told **John** a story and Peter Susan.

Crucially, both sentences have DOs for which the Vs, *tell* and *give*, name prototypical actions: giving is one of the typical actions done with valuables and stories are made to be told. This is a specific property of weak definites, like *the hospital*, and it has been argued that they form event-kinds with the verbs (Aguilar-Guevara and Zwarts 2010).[20] Consider the differences:

(116) John went to the hospital and so did Peter. (relevant reading: 'as a patient')

---

20 Actually, this is true of all metonymic DPs, which require the predicate to allude to the defining property of the DP. And, according to me, weak definites are merely metonymic DPs. For instance, *la 14* 'table 14' refers to the people seated at table 14 **as consumers**, a property which must be activated in the sentence (Fauconnier 1994):

(i) La 14 a laissé un gros pourboire.
The 14 has left a big tip
'Table 14 has left a big tip.'

(ii) *La 14 est entré chez lui et a allumé la télé.
The 14 is entered at his place and has turned on the TV
'Table 14 entered his place and turned the TV on.'

Note that such a requirement does not hold with metaphors, for instance with *Head* meaning 'the major element of,' (iv) is fine, even though the meaning 'major element of an institution' is not activated:

(iii) The Head of Department signed a big contract.
(iv) The Head of Department fell on the pavement.

(117) The hospital was damaged by the earthquake.

Damage the hospital does not name a kind of event, while *go to the hospital* does. In both cases, *the hospital* names a building, but it names an individual in (117) and a kind in (116), the kind defined as 'building where patients are treated.' When a DP naming a kind combines with a verb, they name an event-kind together and the verb necessarily activates the defining property of the DP, leading to the 'patient' interpretation of its argument.

Conversely, for (114-115), we can assume that DOs of Vs naming actions prototypical for the DOs name event-kinds with the verb, here TELL STORY and GIVE VALUABLES, which rescues Gapping. See (126).

So, a good test sentence must avoid such cohesion between the V and the DO. The DO must be natural in the context, but the V should not name one of its prototypical functions, as in:

(118) **Poor Mary and Susan, they are living on the street now. But **a passer-by** gave **Mary** a blanket and a policeman Susan.

That is the relevant fact: IOs cannot be lower elements of Gapping. Compare DOs:

(119) … But **a passer-by** gave Mary **a blanket** and the baker a sandwich.

Now, the subjects of SCs subcategorized by causative verbs like French *rendre* 'make' cannot be lower elements either, and those are extractable:[21]

(120) ??**Le LSD** a rendu [**Marie** folle] et l'Ecstasy Suzanne. vs. et l'Ecstasy schizophrène.
The LSD has made Mary crazy and the Ecstasy Susan vs. and the E. schizophrenic
'LSD has made Mary crazy and Ecstasy Susan.' vs. 'and Ecstasy schizophrenic.'

So, let us explain the following:

(121) **Descriptive generalizations on subcategorized SCs**
a. The subject of a subcategorized SC cannot be the lower element of Gapping, unless the predicate of the SC expresses a part of the relevant event-kind.
b. The predicate of such a SC can be the lower element of the pair of Gapping.

Subcategorized SCs form a specific type of construction, in which the inner subject behaves syntactically like the object of the main verb and in which the predicate is semantically selected by the main V (Stowell 1982). We will thus consider the following to be the case:

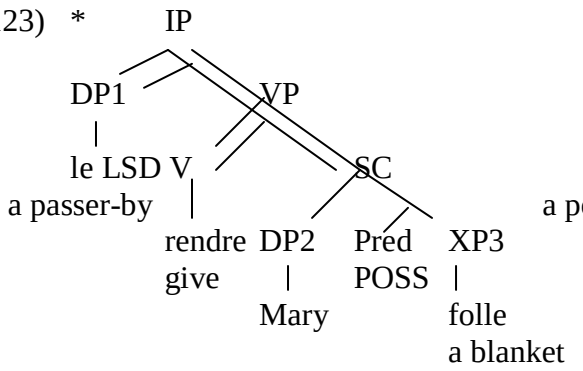
[21] Extractability of the inner-subject position can be shown for instance by extraction of the quantifier *combien* from the inner subject *combien de gens* 'how many people':

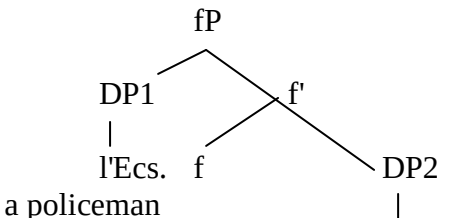
(i) On ne sait pas **combien** le LSD a rendu **de gens** fous.
One NEG knows not how many the LSD has made of-people mad
'We do not know how many people LSD has made mad.'

(122) In SC constructions like *believe/make/,etc…SC*, the main verb names a simple event-kind, BELIEVE, MAKE, etc. while the function that the verb names is a complex function that comprises the embedded predicate, like 'believe brave,' 'make crazy,' etc., and the inner subject is the lower argument of that function.

Now, following work where double-object constructions embed a SC, I assume that the head of the SC is a functional head expressing POSSESSION (cf. Kayne 1984's HAVE). And I assume Bowers's (1993) Pred head for SCs selected by verbs like *believe*, *make*, etc. Those functional heads mean that their object is, respectively, a thing possessed and a property. Here is the (simplified above VP) similar structure of the ill-formed sentences before Map:

(123) *





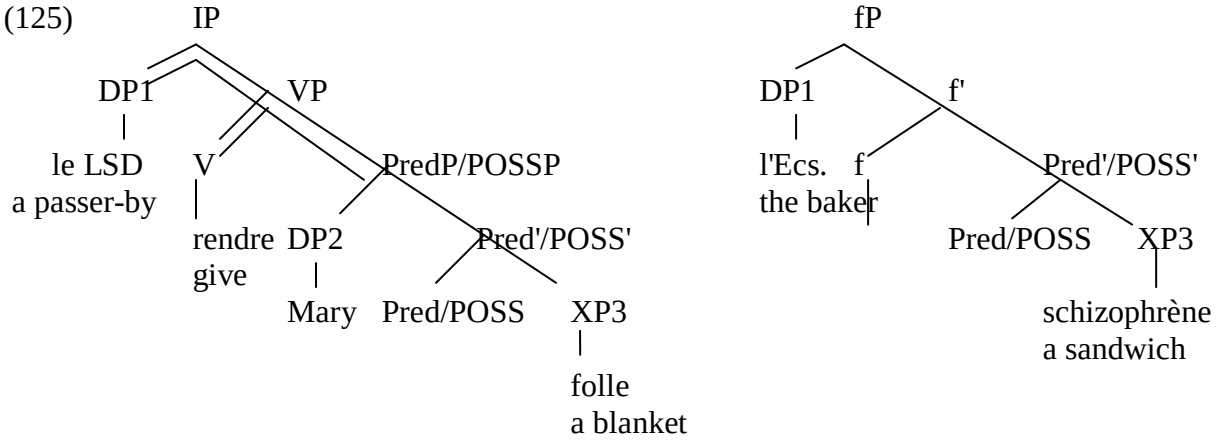
Let us take the double-object sentence. The event-kind is named by the V, GIVE, whose syntactic expression is *DP1 give SC*, in double lines. The content of the SC, POSS XP3, is not accessible because it is not part of the event-kind. The node *f* looks in the first conjunct for the syntactic expression of the function between DP1 and DP2, which is a complex function that should, by (122), comprise the predicate of the SC. But POSS is not accessible, because it is neither the expression of the simple event-kind GIVE, nor the correlate, nor material in-between the correlates. Consequently, the node *f* does not find the syntactic expression of the right function with DP1 and DP2, and Mapping cannot succeed. The same holds with causative constructions like (120). It is this lack of correspondence between the expression of the simple event-kind GIVE or RENDRE 'MAKE,' which cannot look into the SC, and the syntactic construction of the complex function relating DP1 and DP2, which should include the head of the SC, which prevents subjects of SCs from being remnants.

Let us now compare this with predicate remnants. Those are judged fine in general:

(124) Some believe him handsome and others brave.

(Johnson 2009, (134):41)

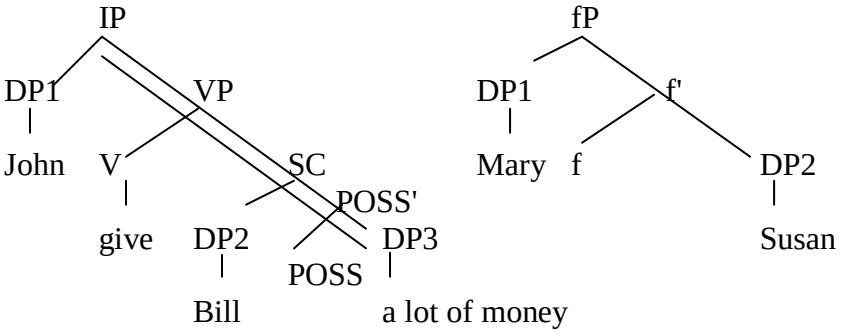
(125)



Here, the question is whether the complex function between DP1 and XP3 can be obtained from the phrase-marker. Given that Pred' is a remnant in the distributive SC, its correlate belongs to the structure for the search of the proper function with which to match *f*. As in the preceding case, the syntactic expression of the simple event-kind GIVE is *give SC*, in double lines. But this time the inner content of the SC is visible, since it is a correlate, making the needed predicate visible to form the complex function with the verb, 'gave Mary POSS' with an agent and a beneficiary argument in (119), and the complex function 'made Mary Pred' with a cause and a property as arguments in (120).

The derivation is different with predicates stereotypical of their objects, which express complex event-kinds, like GIVE VALUABLES (Boone's example), where the complex function is already provided by the complex event-kind:

(126)



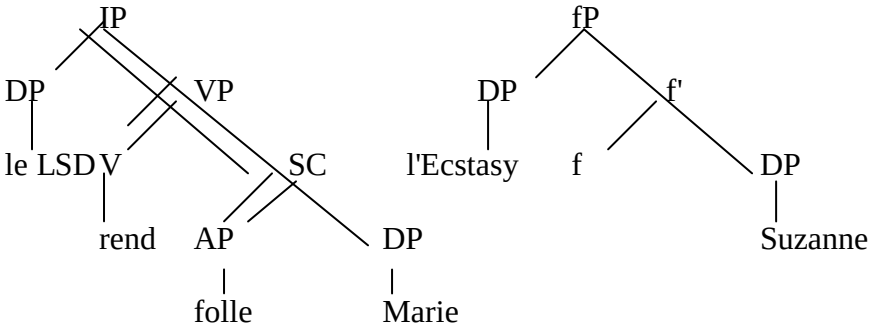
The complex event-kind being GIVE VALUABLES, *f* plugs onto the two predicates, GIVE and POSS, which are responsible together for the presence of all the arguments, and the function that relates DP1 and DP2 can fully be read on the tree, 'give a lot of money,' in double lines, with two open positions, the main subject and the internal subject.

There are sentences like (120) in French with syntactic reanalysis of the main V with the embedded predicate (Williams 1994). Supposing reanalysis expresses a complex event-kind of the form V PRED, there is a proper phrase-marker for *f* to expand onto, naming the right function:

(127)

Le LSD	a rendu folle	**Marie** et	l'Ecstasy Suzanne.
The LSD	has made mad	Mary and	the Ecstasy Susan

(128)

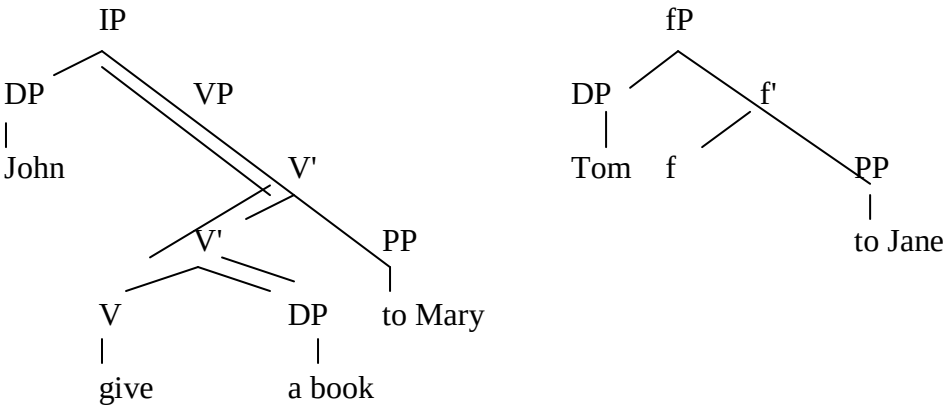


Here, *f* can be plugged onto the reanalyzed predicate V-AP, and the rest of the tree in double lines provides the full function between the two DPs, 'make crazy.' with its two arguments, the subject of *rend folle* 'makes crazy' and the object of that reanalyzed predicate.

Turning to the prepositional construction of two-object verbs, the recipient can be paired:

(129) **John** gave a book **to Mary** and Tom to Jane.

(130)



The *f* node can coincide with *give*, there is nothing below or sister of *to Mary* that should be included, and the part of the phrase-marker above *to Mary*, because it is directly provided by the V, can be included to name the function relating the agent and the recipient, 'gave a book.'

5. Consensus and Gapping

The preceding section investigated whether inner subjects can be lower elements. Contrary to what we have just claimed, the literature shows a lower element that is an embedded subject:

(131) Some believe John to be the best candidate and others Mary.

(Boone 2014, (18b):106)

However, the data suggests that, for an embedded subject to be a lower element, the content of the embedded clause must be based on a consensus held prior to the utterance. Consider the contrasts:

(132) **Some** believe **Clinton** to have lied publicly and others Donald Trump.

(133) *After the earthquake, **some** believed **Tom** to be alive and others Peter.

(134) *__Some__ people believe __Elvis__ to sell information on his company and others Joe.

Superlative statements mean that there is an evaluation between objects, here people, in the situational context prior to the utterance. The same holds with (132), where both Clinton and Trump have been widely accused of public lie. Such ideas constitute consensus prior to the utterance, 'there is a best candidate,' and 'Presidents lie publicly.' Note that in (133), earthquakes are thought to make victims in general but not necessarily, so, given the absence of a context that would provide the consensus 'there were victims,' the embedded clauses, *Tom be alive* and *Peter be alive* do not express instantiations of any consensus. I will thus suggest that a consensus held prior to the utterance is like a fixed idiom, it constitutes a semantic unit, CONSENSUS, forming a part of a complex event-kind, here BELIEVE CONSENSUS, where *be the best candidat*e and *lie publicly* name a realization of the CONSENSUS part. The function provided by the event-kind BELIEVE CONSENSUS is expressed by the syntactic expression of the event-kind, here 'believe to be the best candidate' and 'believe to lie publicly,' which have two arguments, a subject and an internal subject. Note that the speaker can reject the consensus in (135) because it is not a presupposition as in (136):

(135) Some believe Clinton to have lied, others Trump, but Presidents do not lie.

(136) ?Some believe the baker to use stale flour but there is no baker in that area.

As for the unacceptable cases like (133) and (134), Gapping cannot have access to the embedded clauses because those clauses does not name a part of the matrix event-kind, BELIEVE. No prior consensus can be added to that event-kind in those cases, hence ill-formedness. Note that this effect of the consensus is not Merchant's (2001 and 2012) e-GIVENNESS, since the latter defines the first conjunct as given information with respect to the second conjunct, and not necessarily prior to the utterance. In fact, with Gapping, the first conjunct is often new, not supposed, information.

This kind of account predicts that there should be no difference between an untensed clause and a tensed one, and that is right, Gapping with superlative statements and prior consensus can leave the embedded subject of a tensed clause, with and without *that*, unexpectedly under a movement analysis of the lower remnant:

(137) __Some__ believe (that) __John__ is the best candidate and others Mary.

(138) __Some__ believe (that) __Clinton__ has lied publicly and others Donald Trump.

6. Indirect Binding on the lower element

6.1 C-command requirement

If there is a function between X and Y, this means that Y is referentially dependent on X, meaning that the lower element of the pair must be Indirectly bound by the higher one. There are sentences which respect the condition that the clause realizes an event-kind, which itself respects the condition on sloppy identity, and still do not accept Gapping. That happens most often when the higher element of the pair is not the matrix subject. Let us start with the clearest contrasts in acceptability, event-kinds formed with manner adjuncts:

(139) **Jean s'est fait mal **au pied** en sortant **du train** et à la main du métro.
Jean himself hurt at-the foot in getting out of-the train and at the hand of-the metro
(140) *John injured **his foot** in stepping **out of the train** and his hand out of the subway.[22]

Some speakers feel a sharp improvement when it is the main subject that is repeated. Recall (22)-(23):

(22) (?)**Jean** s'est fait mal au pied en sortant **du train** et Pierre du métro.
(23) (?)**John** hurt his foot (while) stepping **out of the train** and Peter out of the subway.

The second clearest contrast is that with adjuncts in habitual sentences:

(141) **Joe invite **ses voisins** quand il fait **de la paella** et ses collègues du couscous.
(142) *Joe invites **his neighbours** when(ever) he makes **paella** and his colleagues couscous.

(143) **Pierre ferme **les fenêtres** quand il a **trop froid** et les rideaux trop chaud.
(144) *Peter closes **the windows** when he is **too cold** and the curtains too hot.

Again, main-subject remnants are preferred:

(145) ?**Pierre** invite ses voisins quand il fait **de la paella** et Tom du couscous.
(146) ?**Peter** invites his neighbours whenever he makes **paella** and Tom couscous.

(147) **Pierre** ferme les fenêtres quand il a **trop froid** et Tom trop chaud.
(148) ?Peter closes the windows when he is too cold and Tom too hot.

The unacceptability of the above sentences is unexplained since they all express an event-kind. For example in (140), the event-kind INJURE WAY comprises the adjunct, and the paired elements *his foot* and *train* occur in its syntactic expression. This pattern is the same in all those cases: the embedded clause has sloppy identity, and the paired elements belong to the expression of some part of an event-kind. There is thus another condition at work here. For the moment, let us note that in all these cases, the DO fails to c-command the other element of the pair, because that element occurs inside an adjunct, too high for the DO to have access to its content.[23] As evidence, consider the scope of negative quantifiers, which require overt c-command:

(149) *Sue n'a invité aucun voisin$_2$ quand elle est passée devant son^2 immeuble.
Sue NEG has invited no neighbor$_2$ when she is passed by his^2 building
'Sue invited no neighbor when she passed by his building.'

The idea that there is a c-command requirement between the elements of the pair is strengthened by the following fact. There are sentences with manner adjuncts which are acceptable, on the same model as the preceding ones (not perfect for all speakers, but better):

[22] The choice of P may modify the judgment, speakers may prefer (140) with *when*.

[23] Neither does the phrase inside the adjunct c-command the DO.

(150) Jean a appris **l'espagnol** en écoutant **la radio** et le coréen les séries sur Netflix.
John has learned the-Spanish in listening the radio and the Korean the series on N.
(151) John learned **Spanish** listening to **the radio** and Korean to TV series on Netflix.

The relevant difference between (150-1) and the former cases is that in (150-1), the manner adverbial is not only subject-oriented, but also object-oriented. That is, the manner of performing the action named by the matrix verb *learn*, listening to some media, relies on a property of the DO, that of being a spoken language. So, the manner adjunct is V-adjoined, to the effect that the DO c-commands it, contrary to the other cases, the non-object-oriented ones, which are VP-adjoined. C-command is verified with negative quantifiers:

(152) ?Sue n' a appris aucune langue_2 en écoutant ses^2 locuteurs.[24]
Sue NEG has learned no language_2 in listening-to its^2 speakers.
'Sue has learned no language listening to its speakers.'

Turning now to the remaining case of extension of Gapping, objects of propositional-attitude verbs, we encounter an apparent counter-example to the c-command hypothesis. Recall that we assumed that propositional objects express a part of an event-kind, the ABOUT SELF part. Given that those clauses are objects, they are c-commanded by the other object, which is verified with negative quantifiers:

(153) Sue n'a averti aucun voisin_2 qu' il^2 faisait trop de bruit.
Sue NEG has warned no neighbour_2 that he^2 made too much-of noise
'Sue warned no neighbor that he was making too much noise.'

So we expect them to accept Gapping. However, even if there is some discrepancy among speakers, Gapping is rejected:

(154) ??Tom a dit **à son médecin** qu'il voyait **des points noirs** et à son
Tom has said to his doctor that he saw of-the dots black and to his

psychologue des éléphants roses.
phychologist of-the elephants pink

(155) *Tom told **his doctor** that he saw **black dots** and his psychologist pink elephants.

This shows that verbs with an addressee are classified as verbs of communication, whether the content of the report is about oneself or not. In that case, the main verb names the event-kind TELL, not TELL ABOUT SELF, banning Gapping in the embedded clause because the clause does not express a part of an event-kind.

In conclusion, there is a c-command requirement in the pairs of Gapping. Let us see why.

---

[24] (152) is a little awkward because a definite like *sa* 'its' is not perfectly compatible with inanimate antecedents, but the counterpart with the genitive pronoun *en* 'of it' is fine:

(i) Sue n' a appris aucune langue_2 en en^2 écoutant les locuteurs
Sue NEG has learned no language_2 in of-it listening-to the speakers
'Sue learned no language listening to speakers of it.'

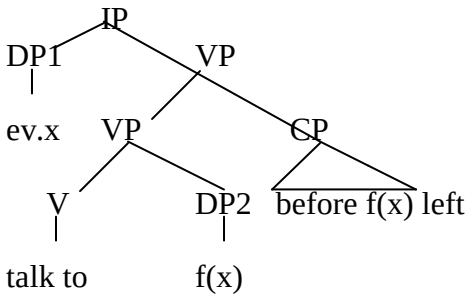
6.2 Indirect Binding

Recall that we said that Gapping makes the lower element, f(x), dependent on the higher one, x, because the lower element is the result of applying a function to the higher one. That relation is Indirect Binding (Haïk 1984), the relation between a distributed DP and the phrases that depends on it:

(156) Everyone talked to [his boss]2 before he3^2 left.
(157) Every journalist talked to [a businessman]2 before he3^2 left.

In those, *every N* indirectly binds all occurrences of DP2, such as *his boss2* and *he^2* in the adjunct, because the referential value of DP2 is f(x), where *x* is the variable bound by *every N*. Here, f is 'boss of' in (156) and 'talked to' in (157). Like all binding relations, Indirect Binding requires c-command, the scope property of binding, which is respected here, where both occurrences of *f(x)* are in the scope domain of *every N*:

(158)



As an aside, no occurrences of *f(x)* c-command the other but nothing forces binding between those occurrences, which are simply coreferential.

So, we add the condition that is displayed in Gapping and dependency in general:

(159) **Indirect Binding condition on dependent elements**
If some phrase Y is referentially dependent on some phrase X, namely, interpreted as f(x), x in the set denoted by X, then Y must be in the scope of X.

Indirectly bound by means 'referentially dependent on and thus in the scope of.' The term *indirect* comes from that fact that *x* is the binder of *f(x)* and that metaphorically *f* intervenes between the *x*'s.

This condition must be respected in the general cases of dependent DPs. For instance Haïk (1984) explains why the pronoun *it* is fine in the second conjunct, but only if an occurrence of the Indirect binder of the pronoun binds the pronoun in that conjunct, namely, below, only if *I* or *Mary* belongs to the set of people introduced in the first conjunct (see also Heim 1982):

(160) *Everyone except me owns a donkey and I feed it well.

(161) Everyone owns a donkey and Mary feeds it well.

The first conjunct sets the function, 'own,' that relates the people and the donkeys. In the first conjunct, *everyone* (= *x*) properly c-commands *a donkey* (=*f(x)*):

(162) ∀x, x in {John, Peter, …, Mary,..}, ∃y, y in the set of donkeys{A, B,…,N,…}, such that x owns y, and f is 'own.' So, x owns f(x).

In the second conjunct, the pronoun *it* must be Indirectly bound by the wide-scope DP. The construction of the referential value of *f(Mary)* is established in the first conjunct. Given that *f(x)* is a variable-like element depending on the value of *x*, it must be bound by the element it depends on, *x*. That is why if, in the second conjunct, *f(Mary)*, namely *it*, is c-commanded by *Mary*, it is possible to assign a value to it. But if *x* does not occur inside the second conjunct, there is no way to relate *it* to any binder that can provide it with a referential value. It is thus excluded as an unbound variable. Here, because the context says that 'I' is not a possible value for *x*, there is no value to attribute to *f(x)*:

(163) *… and I feed f(x) well. vs. …and Mary feeds f(Mary) well.

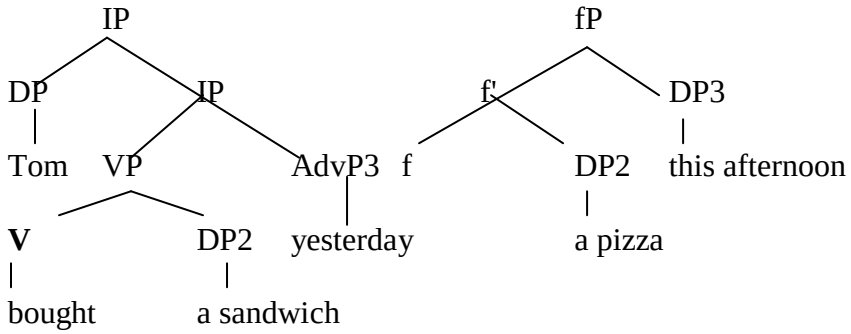
6.3 Gapping with objects and adjuncts in a single clause

We have just seen that Gapping cannot pair an object and an element in a VP-adjoined adjunct because the object does not c-command inside the adjunct. However, Gapping may pair an object and an adjunct in a simple clause:

(164) Tom bought a sandwich yesterday and a pizza this afternoon.

This is fine because we do not require that the first element of the pair be the Indirect Binder. Coordination is done at the lower IP level. The higher element of the pair is the adjunct and the dependent element is the argument, which makes it possible to respect the Indirect-Binding requirement on Gapping. In order for Mapping to respect the ordering of the phrases, DP3 must be on the right rather than on the left in the distributive SC:

(165)



Buy names an event-kind, BUY, the node *f* coincides with V, and the rest of the phrase-marker, *Tom bought*, which is provided by the V *buy*, is the syntactic expression of the function relating its two arguments, the object of the verb and the time of the event. Here, the values of the food depend on those of the time of the eating events.

7 Conclusion

Gapping seems to require that the remnants be clause-mates because it involves distributivity and distributivity depends on the interpretation of the verb, sometimes augmented by material, as an individuating function relating two phrases. This article has shown, first, that the function correlates with an event-kind, and that event-kinds can be augmented, in particular

with self-attribution of thoughts, with manner adjuncts, with embedded clauses in generic statements, and with prior consensus. This allows extension downward of the function even if extraction from the position of the lower element is forbidden. Second, elements of the pairs are in an Indirect-Binding relation because the lower element referentially depends on the higher one and thus must occur in its scope.

Gapping is a property of coordinate structures, which allow unions of phrase-markers, formed by merging and Mapping a distributive SC onto a clause that expresses a function between two phrases and uses addresses not only in recognizing the grammatical functions of the remnants but also the referential values of sloppy pronouns. Lastly, conditions on Mapping explain the impossibility to leave embedded subjects, a subject-object-asymmetry account without extraction.

REFERENCES

Aguilar-Guevara, Ana and Joost Zwarts. 2010. Weak definites and reference to kinds. Proceedings of SALT 20:179-196. Nan Li and David Lutz (eds.), University of British Columbia and Simon Fraser University, Vancouver, British Columbia. Published by the LSA.

Alexeyenko, Sacha. 2012. Manner modification in event semantics. In *Proceedings of the 27th Annual Meeting of the Israel Association for Theoretical Linguistics* (IATL27). *MIT Working Papers in Linguistics*.

Alexeyenko, Sacha. 2015. *The Syntax and Semantics of Manner Modification: Adjectives and Adverbs*. PhD Dissertation, University of Osnabrück.

Aoun, Joseph and Dominique Sportiche. 1982. On the formal theory of government. *The Linguistic Review* 2:211-236.

Barker, Chris. 2007. Parasitic scope. *Linguistics and Philosophy* 30(4):407–444. http://dx.doi.org/10.1007/s10988-007-9021-y.

Bîlbîie, Gabriela. 2017. *Grammaire des constructions elliptiques : Une étude comparative des phrases sans verbe en roumain et en français***.** *Empirically Oriented Theoretical Morphology and Syntax* 2. Language Science Press: Berlin.

Boone, Enrico. 2014. *The syntax and licensing of gapping and fragments*. PhD dissertation. Leiden University.

Bowers, John. 1993. The Syntax of Predication, *Linguistic Inquiry 24*:591-656.

Brinton, Laurel J. 1987. The aspectual nature of states and habits. *Folia Linguistica* 21:195-214.

Bumford, Dylan. 2015. Incremental quantification and the dynamics of pair-list phenomena. *Semantics & Pragmatics* 8: 1–70.

Carlson, Greg. 1977. A unified analysis of the English bare plural. *Linguistics and Philosophy* 1:413-457. Reidel. Dordrecht.

Carlson, Greg. 1987. Same and different: some consequences for syntax and semantics. *Linguistics and Philosophy* 10:531-565.

Carlson, Greg. 1988. Truth-conditions of generic sentences: two contrasting views. In *Genericity in natural language : proceedings of the 1988 Tubingen conference*. Manfred Krifka (ed). University of Tubingen Publications.

Carlson, Greg. 1989. On the semantic composition of English generic sentences. In Chierchia, G., Partee, B. H., Turner, R. (eds.) *Properties, Types and Meaning*: *Studies in Linguistics and Philosophy* (formerly *Synthese Language Library*) 39:167-192. Springer, Dordrecht.

Carlson, Greg. 2003. Weak indefinites. In *From NP to DP*. Martine Coene and Yves D'Hulst (eds.), 19-201, Amsterdam: John Benjamins.

Chierchia, Gennaro. 1995. Individual-Level predicates as inherent generics. In *The Generic Book*. 176-223, Carlson, Greg & Francis Jeffry Pelletier (eds.). Chicago University Press.

Chierchia, Gennaro. 1998. Reference to kinds across languages. *Natural Language Semantics* 6:339- 405.

Cohen, Ariel. 2012. Generics as modals. In *Recherches linguistiques de Vincennes 41. New perspectives on genericity at the interfaces* (Alda Mari ed.): 63-82.

Coppock, Elizabeth. 2001. Gapping: in defense of deletion. In *Proceedings of the Chicago Linguistics Society 37*, Mary Andronis, Christopher Ball; Heidi Elston and Sylvain Neuvel (eds.), 133-147. University of Chicago.

Culicover, Peter W., and Ray Jackendoff. 1997. Semantic subordination despite syntactic coordination. *Linguistic Inquiry* 28:195-217.

Culicover, Peter W. and Ray Jackendoff. 2005. *Simpler Syntax*. Oxford University Press.

Declerck, Renaat. 1986. The manifold interpretations of generic sentences. *Lingua* 68:149-188. North-Holland.

Dougherty, Ray. 1970. A Grammar of Coordinate Conjoined Structures. *Language* 46:850-898.

Dowty, David. 1979. *Word Meaning and Montague Grammar*. Dordrecht: Reidel.

Fabricius-Hansen, Cathrine, and Dag T. T. Haug (eds.). 2012. *Big Events, Small Clauses: the Grammar of Elaboration*. *Language, Context and Cognition* 12. Boston: de Gruyter.

Fauconnier, Gilles. 1994. *Mental Spaces: Aspects of Meaning Construction in Natural Language*. New York: Cambridge University Press.

Fernald, Theodore B. 1999. Evidential Coercion: Using Individual-Level Predicates in Stage-Level environments. *Studies in the Linguistic Sciences* 29:43-63.

Fox, Danny, and David Pesetsky. 2005. Cyclic linearization of syntactic structure. *Theoretical Linguistics* 31:1-45.

Gehrke, Berit .2019. Event kinds. In *The Oxford Handbook on Event Structure*. 205-233. Rob Truswell (ed.). Oxford: Oxford University Press.

Goodall, Grant. 1987. *Parallel structures in syntax*. Cambridge: Cambridge University Press.

Guéron, Jacqueline. 2006. Generic Sentences and Bare Plurals. In *Non Definiteness and Plurality*, Svetlana Vogeleer, Liliane Tasmowski (eds.), 219-234. John Benjamins, Amsterdam.

Haïk, Isabelle. 1984. Indirect Binding. *Linguistic Inquiry* 15: 185-223.

Haïk, Isabelle. 1986. *The syntax of operators*. Doctoral dissertation, MIT.

Haïk, Isabelle. 1987. Pronouns of laziness. In *Proceedings of NELS 18* at McGill University. James Blevins and Juli Carter (eds.). U. Mass: Amherst.

Haïk, Isabelle. 2013. Symmetric structures. Corela 11,1. DOI:10.4000/corela.2875.

Hankamer, Jorge. 1979. *Deletion in coordinate structures*. New York: Garland.

Hardt, Daniel. (2018). Internal and external readings of same: Evidence for a uniform account. *Proceedings of Sinn Und Bedeutung*, *21*(1), 535-546. Retrieved from https://ojs.ub.uni-konstanz.de/sub/index.php/sub/article/view/153.

Haspelmath, Martin. 2016. The serial verb construction: Comparative concept and cross-linguistic generalizations. *Language and Linguistics* 17(3). 291–319. DOI: http://doi.org/10.1177/2397002215626895.

Hein, Irene. 1982. *The semantics of definite and indefinite Noun Phrases*. Doctoral dissertation, U. Mass. Amherst.

Heim, Irene. 1985. Notes on comparatives and related matters. Unpublished manuscript, University of Texas at Austin. http://semanticsarchive.net/ Archive/zc0ZjY0M.

Higginbotham, Jim. 1985. On Semantics. *Linguistic Inquiry* 16: 547-593.

Jacobson, Pauline. 1999. Towards a variable-free semantics. *Linguistics and Philosophy* 22(2):117–184. http://dx.doi.org/10.1023/A:1005464228727.

Jackendoff, Ray. 1990. *Semantic structures*. Cambridge, MA: MIT Press.

Jayaseelan, Karattuparambil A. 1990. Incomplete VP deletion and gapping. *Linguistic Analysis* 20:64-81.

Johnson, Kyle. 2009. Gapping is not (VP)-Ellipsis. *Linguistic Inquiry* 2:21-35.

Johnson, Kyle. 2014. *Gapping*. The Wiley Blackwell Companion to Syntax, Second Edition.

Kayne, Richard S. 1981. ECP Extentions. *Linguistic Inquiry* 12, 93-133.

Kayne, Richard S. 1984. Unambiguous paths. In *Connectedness and binary branching*,129–164.Dordrecht: Foris.

Landman, Meredith and Marcin Morzycki. 2003. 'Event-kinds and the Representation of Manner.' In Nancy Mae Antrim, Grant Goodall, Martha Schulte-Nafeh, and Vida Samiian, (eds.). *Proceedings of the Western Conference in Linguistics* (WECOL) vol.11, California State University, Fresno. (Held in 2002 at the University of British Columbia).

Landman, Meredith. 2006 "*Variables in Natural Language*, Doctoral Dissertation, U. Mass Amherst. http://scholarworks.umass.edu/dissertations_1/3328.

Lasnik, Howard. 2013. Multiple Sluicing in English? *Syntax* 17:1-20.

Lawler, J. 1973. *Studies in English Generics*. Doctoral dissertation, University of Michigan. (Reprinted in *University of Michigan Papers in Linguistics* (UMPIL) I:1), 1973.

Lechner, Winfried. 1998. *Comparative deletion*. Doctoral Dissertation. University of Massachusetts at Amherst, Amherst.

Massam, Diane. 2001. Pseudo noun incorporation in Niuean. *Natural Language and Linguistic Theory*, **19**. 153– 97.

McConnell-Ginet, Sally. 1982. Adverbs and logical form: a linguistically realistic theory. *Language* 58, 144–184.

Merchant, Jason. 2001. *The syntax of silence: Sluicing, islands and identity in ellipsis*. Oxford University Press.

Merchant, Jason. 2004. Fragments and Ellipsis. *Linguistics and Philosophy* 27:661-738.

Merchant, Jason. 2012. Ellipsis. In *Syntax: An international handbook of contemporary syntactic research*. Tibor Kiss and Artemis Alexiadou (eds.), Berlin: de Gruyter.

Milsark, Gary. 1974. *Existential Sentences in English*. Doctoral Dissertation, MIT.

Moltmann, Friederike. 1992. *Coordination and Comparatives*. Doctoral Dissertation, MIT.

Neijt, Anneke. 1979. *Gapping: a contribution to sentence grammar*. Dordrecht. Foris.

Pesetsky, David. 1982. Paths and Categories. Doctoral dissertation, MIT.

Piñón, Christopher. 2007. Manner adverbs and manners. http://pinon.sdf-eu.org/7. Ereignissemantik-Konferenz, Schloss Hohentübingen, 20.

Rimell, Laura. 2004. Habitual Sentences and Generic Quantification. In *Proceedings of the 23rd West Coast Conference on Formal Linguistics*. Vineeta Chand, Ann Kelleher, Angelo J. Rodríguez, and Benjamin Schmeiser (eds.)

Ross, John Robert. 1970. Gapping and the order of constituents. In *Progress in linguistics*. Manfred Bierwisch and Karl E. Heidolph (eds.), 249-259. The Hague: Mouton.

Sag, Ivan. 1976. *Deletion and Logical Form*. Doctoral dissertation. MIT.

Sailer, Manfred. 2010. The Family of English Cognate Object Constructions. In *Proceedings of the 17th International Conference on Head-Driven Phrase Structure Grammar*. University Paris Diderot, Paris 7, France. Stefan M. Muller (ed.). CSLI Publications: 191–211.

Schäfer, M. 2008. Resolving scope in manner modification. In O. Bonami & P. Cabredo Hofherr (eds.) *Empirical issues in syntax and semantics* 7: 351-372. Paris: CSSP.

Stowell, T. 1982. Subjects across categories. *The Linguistic Review* 2:285-312.

Ter Meulen, Alice G.B. 2012. Generics in information structure: exceptions versus counterexamples. In *Recherches linguistiques de Vincennes* 41. *New perspectives on genericity at the interfaces* (Alda Mari ed.)

Thoms, Gary. 2013. Lexical mismatches in ellipsis and the identity condition. In *Proceedings of NELS* 42. Stefan Keine and Shayne Sloggett (eds.), 559-472. Amherst, Ass: CSLI Publications.

Williams, Edwin. 1994. *Thematic structure in syntax*. *Linguistic Inquiry Monograph* 23. The MIT Press.